Grand Canyon

National Park Service
U.S. Department of the Interior

Grand Canyon National Park
Arizona

Corrected Air Quality Impacts, Draft EIS, Colorado River Management Plan

Air quality is a critical issue in Grand Canyon National Park. Clean, clear air is an absolute necessity to enjoy the expansive panoramas of this remarkable landscape. In addition, many park resources can be adversely affected by different air pollutants. Consequently, air quality was included in the impact analysis of different alternatives considered in the park's Draft Environmental Impact Statement for the Colorado River Management Plan. Continuing analysis has found significant errors in air pollution emissions predicted by the Draft.

Why the changes?

When Grand Canyon National Park staff reviewed initial air pollution predicitons prepared for the Draft EIS, numerous errors were discovered. Most of these errors were found and corrected prior to release of the Draft EIS. However, continuing re-analysis of these initial figures found additional errors, particularly related to the amount of pollution generated by outboard motors. These errors have now been corrected, and now follow both the methodology outlined in the Draft EIS and guidance documents from the U.S. Environmental Protection Agency.

What changed?

Corrections to the calculations caused all predicted air pollutant emissions associated with recreational use of the Colorado River in Grand Canyon to drop below the values reported in the Draft EIS. The air quality impacts for nitrogen oxides (NO_x), sulfur dioxide (SO_2), particulates (PM_{10}), and volatile organic (VOC) emissions for all alternatives remain in the "negligible" category (less than 50 tons/year). Emissions of carbon monoxide (CO) also fell to "negligible" for all alternatives except Lower Gorge Alternatives 1, 3 and 5, in which projected emissions dropped to "minor" (50 to 100 tons/year). The initial analysis had predicted "moderate" (100 to 250 tons/year) carbon monoxide impacts for several alternatives, and only the Lees Ferry no- motor alternatives B and C had "negligible" carbon monoxide impacts.

Differences between existing conditions (Lees Ferry Alternative A, Lower Gorge Alternative 1) and the action alternatives were also reduced to "negligible." These differences are now predicted to be less than 50 tons/year. The only difference between alternatives that exceeds 50 tons/year is between Lower Gorge Alternatives 2 and 5 for carbon monoxide (69.6 tons/year, or "minor").

Are these changes significant?

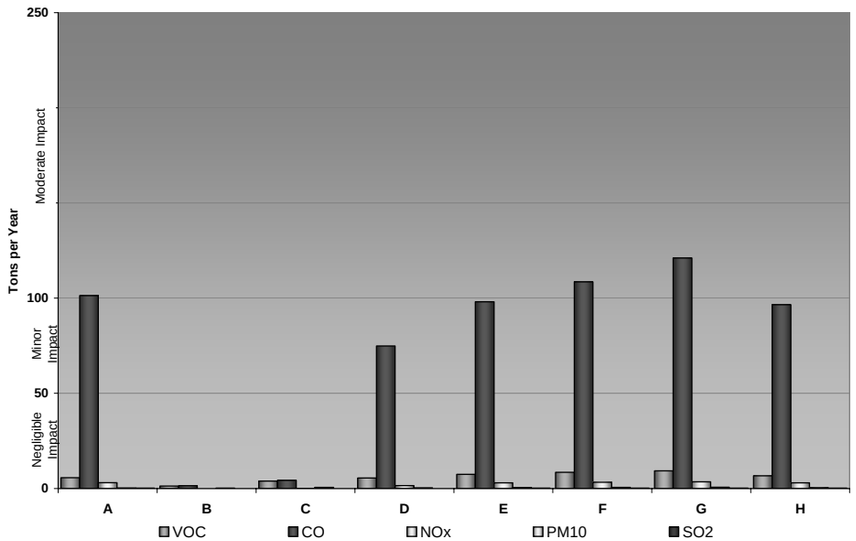
The reduction in predicted emissions is "good news" regarding the impacts of river recreation on Grand Canyon's air quality. The original analysis predicted several alternatives would have "moderate" impacts on human health and park resources. The new analysis predicts all the Lees Ferry Alternatives having "negligible" impacts for all pollutants. Impacts from the Lower Gorge Alternatives are also "negligible" for all air pollutants except carbon monoxide, which has a "minor" impact under Alternatives 1, 3 and 5. Even with these lower predicted emissions, localized impacts will continue to occur. Based on observations at current use levels, these impacts will remain concentrated at camp and attraction sites. In these areas, motor and campfire emissions may cause odors and occasional thin plumes.

Unfortunately, the cumulative adverse impacts of air pollution will remain. Elevated levels of ozone (measured concentrations are higher than 80% of the National Ambient Air Quality Standards) will still have the potential to impact human health. Resource impacts from ozone (plant exposures to SUM06 values well above 25 part- per- million hours) and decreased visibility are expected to continue. Most of these cumulative impacts result from emissions upwind from the Park. The negligible to minor amounts of air pollution created by Colorado River recration under any of the proposed alternatives will not cause a significant change in these overall levels.

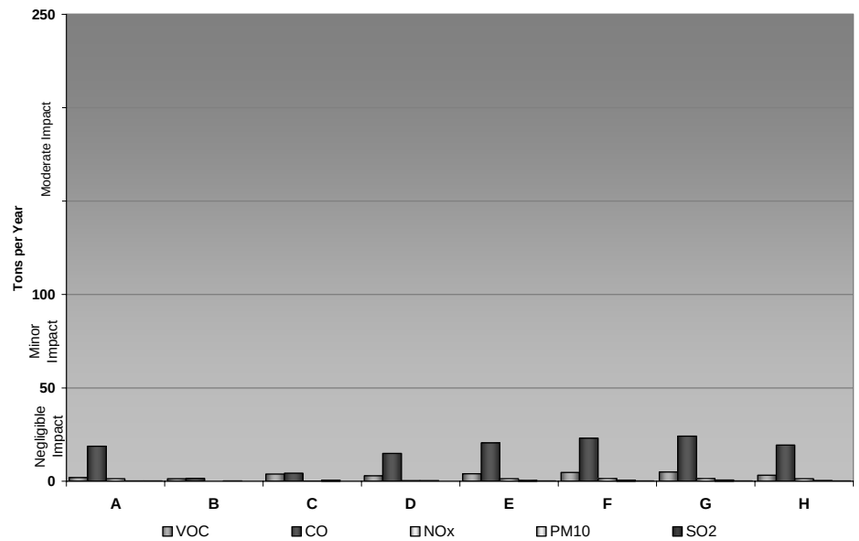
Mitigating these cumulative impacts will require action on a number of fronts. Incremental improvements are possible through addressing specific pollution sources in and near the Park. Meanwhile, widescale improvements can be accomplished through cooperative work with

Lees Ferry Alternatives

Emissions predicted in Draft Environmental Impact Statement

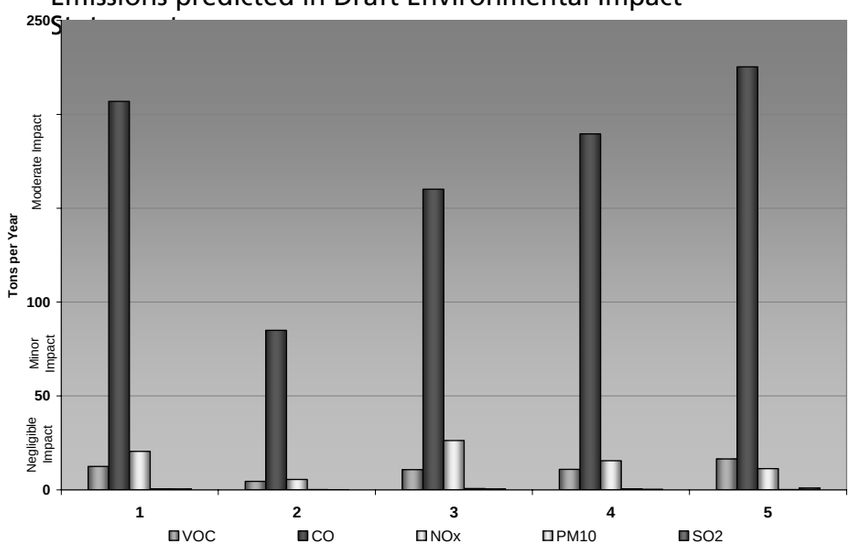


Corrected emissions, October 2004



Lower Gorge Alternatives

Emissions predicted in Draft Environmental Impact Statement



Corrected emissions, October 2004